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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,221	10/01/2004	Rolf-Dieter Pavlik	2002P03968WOUS	6239
7590 Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830			EXAMINER KIM, EDWARD J	
			ART UNIT 2109	PAPER NUMBER
			MAIL DATE 06/27/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/510,221

Applicant(s)

PAVLIK ET AL.

Examiner

Edward J. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/01/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/01/2004 and 02/27/2006.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/01/2004 and 02/27/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Inventorship

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Drawings

4. The drawings are objected since they fail to show necessary textual labels of features or symbols in Figures 1-5 as described in the specification. Textual labels would give the viewer necessary details to fully understand Figures 1-5 at a glance. A descriptive textual label for each number element in these figures would be needed to

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fully and understand these figures without substantial analysis of the detailed specification. See 37 CFR 1.84 (o) below:

(o) **Legends** . Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because of the following informalities:

In the last couple of lines of Paragraph [0023], reference is made to a "connection 82" of Figure 5, which should be "connection 92" to the examiner's understanding. Appropriate correction is required and it is advised that the applicant re-check the application for minor errors.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 11-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-30 of copending Application No. 10/510,315. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the second mechanism to provide direct access to a transport layer to support different types of communications.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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9. Claims 11-30 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-29 of copending Application No. 10/510,312. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the web server to provide direct access to a transport layer to access a real-time operating system.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 11-23, 26, 27, 28, 29, 30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-23, 24, 25, 28, 29, 30 of copending Application No. 10/510,225. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/510,221, which is the application in consideration by the examiner, adds to the claims of Application No. 10/510,225 a secondary software module to the web server. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a web server accommodate multiple software modules to carry out each functionalities. The software modules can be integrated into one or divided up into multiple modules following a certain criteria, and not impose any improvements to the system thereof.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claims 11-28 are rejected under 35 U.S.C. 101, because the claimed invention is directed to non-statutory subject matter.

Regarding claim 11, although the preamble of the claim recites "a web server", the body of the claim includes only "software modules". Claim 11 neither includes any computer hardware component(s) nor positively recites that the cited software programs are stored on a computer medium that can be read by a machine. As such, claim 11 is directed to software per se which is non-functional descriptive material and non-statutory.

Similarly, claims 12-28 are directed to software per se which is non-functional descriptive material and non-statutory.

13. Claim 29 is rejected under 35 U.S.C. 101, because the claimed invention is directed to non-statutory subject matter.

Regarding claim 29, although the preamble of the claim recites "an automation system" and "a web server", the body of the claim includes only "software modules". Claim 29 neither includes any computer hardware component(s) nor positively recites that the cited software programs are stored on a computer medium that can be read by a machine. As such, claim 29 is directed to software per se which is non-functional descriptive material and non-statutory.

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14. Claim 30 is rejected under 35 U.S.C. 101, because the claimed invention is directed to non-statutory subject matter.

Claim 30 does not positively recite that the cited "computer software product" is on a computer medium that can be read by a machine. As such, claim 30 is directed to non-functional descriptive and non-statutory material.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 11-22 and 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuchlin et al. ("HIGHROBOT: Telerobotics in the Internet", Copyright 1997).

Regarding claim 11, **Kuchlin et al.** discloses, a web server comprising software modules, wherein at least a first software module comprises a first mechanism for providing an automation functionality (**Kuchlin et al., Paragraph 4**) and a second mechanism to directly access a transport layer (**Kuchlin et al., Paragraph 3.2, Paragraph 4.1**). It is noted by the examiner that the Transmission Control Protocol (TCP) is known in the art as the best-known example of a Layer 4 Protocol.

Regarding claim 12, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server

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comprises a connection to a communication network (**Kuchlin et al., Paragraph 3.2, Paragraph 5**).

Regarding claim 13, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the communication network is the Internet (**Kuchlin et al., Paragraph 3.2, Paragraph 5**).

Regarding claim 14, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein internet protocols are provided for communication between the software modules themselves and for communication between the software modules and components outside the web server (**Kuchlin et al., Paragraph 3.2, Paragraph 4.1, Paragraph 4.2**).

Regarding claim 15 **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein Internet protocols are provided for communication between the software modules themselves and for communication between the software modules and components outside the web server (**Kuchlin et al., Paragraph 3.2, Paragraph 4.1, Paragraph 4.2**).

Regarding claim 16, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server is adapted to configure and administrate the software modules (**Kuchlin et al., Paragraph 4.2.2, Paragraph 4.2.4**).

Regarding claim 17, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the web server is

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adapted to configure and administrate the software modules (**Kuchlin et al., Paragraph 4.2.2, Paragraph 4.2.4**).

Regarding claim 18, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 14, and further discloses, wherein the web server is adapted to configure and administrate the software modules (**Kuchlin et al., Paragraph 4.2.2, Paragraph 4.2.4**).

Regarding claim 19, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 20, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 21, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 14, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 22, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 16, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 26, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server is connected via a communication network to a web browser, wherein the web browser is used as a control and monitoring system (**Kuchlin et al., Paragraph 4.1, Paragraph 4.2.3, Paragraph 4.3**).

Regarding claim 27, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the web server is connected via a communication network to a web browser, wherein the web browser is used as a control and monitoring system (**Kuchlin et al., Paragraph 4.1, Paragraph 4.2.3, Paragraph 4.3**).

Regarding claim 28, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server comprises a real-time operating system (**Kuchlin et al., Paragraph 2, Paragraph 4**).

Regarding claim 29, **Kuchlin et al.** discloses an automation system comprising a web server having software modules, wherein at least a first software module comprises a first mechanism for providing an automation functionality and a second mechanism to directly access a transport layer (**Kuchlin et al., Paragraph 3.2, Paragraph 4, Paragraph 4.1, Paragraph 4.2**). It is noted by the examiner that the Transmission Control Protocol (TCP) is known in the art as the best-known example of a Layer 4 Protocol.

Regarding claim 30, **Kuchlin et al.** discloses a computer program product comprising a web server having software modules, wherein at least a first software

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module comprises a first mechanism for providing an automation functionality and a second mechanism to directly access a transport layer (**Kuchlin et al., Paragraph 1, Paragraph 3.2, Paragraph 4, Paragraph 4.1, Paragraph 4.2**). It is noted by the examiner that the Transmission Control Protocol (TCP) is known in the art as the best-known example of a Layer 4 Protocol.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchlin et al. ("HIGHROBOT: Telerobotics in the Internet) as applied to claims 11, 12 and 14, above, and further in view of Modeste et al. (US Pub. #2003/0056012 A1).

Regarding claim 23, **Kuchlin et al.** disclosed the limitations, substantially as claimed, as described in claim 11, but fails to teach the use of a firewall for the connection to the Internet. However, the use of a firewall for security purposes is well-

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known in the art as evidenced by Modeste et al. Modeste et al. teaches a web server comprising a connection to the internet using a firewall (**Fig. 4, Paragraph [0041]**). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kuchlin et al. and Modeste et al. to prevent unauthorized access to the web server and the industrial automation system through the use of a firewall.

Regarding claim 24, **Kuchlin et al.** disclosed the limitations, substantially as claimed, as described in claim 12, but fails to teach the use of a firewall for the connection to the Internet. However, the use of a firewall for security purposes is well-known in the art as evidenced by Modeste et al. Modeste et al. teaches a web server comprising a connection to the Internet using a firewall (**Fig. 4, Paragraph [0041]**). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kuchlin et al. and Modeste et al. to prevent unauthorized access to the web server and the industrial automation system through the use of a firewall.

Regarding claim 25, **Kuchlin et al.** disclosed the limitations, substantially as claimed, as described in claim 14, but fails to teach the use of a firewall for the connection to the Internet. However, the use of a firewall for security purposes is well-known in the art as evidenced by Modeste et al. Modeste et al. teaches a web server comprising a connection to the Internet using a firewall (**Fig. 4, Paragraph [0041]**). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kuchlin et al. and Modeste et al. to prevent

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unauthorized access to the web server and the industrial automation system through the use of a firewall.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Jammes, US Patent #7162510, *Communication System for a Control System Over Ethernet and IP Networks*, discloses a communication system for communication within a control system.

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- Calkin et al., *Visualisation, Simulation & Control Of A Robotic System Using Internet Technology*, IEEE, 1998, discloses a virtual robotics and control laboratory, "MuMaTE".
- Taylor et al., *Internet Robots: A New Robotics Niche*, IEEE Robotics & Automation Magazine, 2000, discusses teleoperation.
- Steger et al., US Patent #6411987, *Industrial automation system and method having efficient network communication*, discloses a system and method of industrial automation providing improved network transfer of data between nodes.
- Steger et al., US Patent #6505247, *Industrial automation system and method for efficiently transferring time-sensitive and quality-sensitive data*.
- Eller et al., US Patent #6643555, *Method and apparatus for generating an application for an automation control system*.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward J. Kim whose telephone number is (571) 270-3228. The examiner can normally be reached on Monday - Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (703) 272-5026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EJK
06/18/2007

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/01/2004 and 02/27/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Inventorship

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Drawings

4. The drawings are objected since they fail to show necessary textual labels of features or symbols in Figures 1-5 as described in the specification. Textual labels would give the viewer necessary details to fully understand Figures 1-5 at a glance. A descriptive textual label for each number element in these figures would be needed to

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fully and understand these figures without substantial analysis of the detailed specification. See 37 CFR 1.84 (o) below:

(o) Legends . Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

Specification

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because of the following informalities:

In the last couple of lines of Paragraph [0023], reference is made to a "connection 82" of Figure 5, which should be "connection 92" to the examiner's understanding. Appropriate correction is required and it is advised that the applicant re-check the application for minor errors.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 11-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-30 of copending Application No. 10/510,315. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the second mechanism to provide direct access to a transport layer to support different types of communications.

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9. Claims 11-30 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-29 of copending Application No. 10/510,312. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the web server to provide direct access to a transport layer to access a real-time operating system.

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10. Claims 11-23, 26, 27, 28, 29, 30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-23, 24, 25, 28, 29, 30 of copending Application No. 10/510,225. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/510,221, which is the application in consideration by the examiner, adds to the claims of Application No. 10/510,225 a secondary software module to the web server. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a web server accommodate multiple software modules to carry out each functionalities. The software modules can be integrated into one or divided up into multiple modules following a certain criteria, and not impose any improvements to the system thereof.

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Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

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12. Claims 11-28 are rejected under 35 U.S.C. 101, because the claimed invention is directed to non-statutory subject matter.

Regarding claim 11, although the preamble of the claim recites "a web server", the body of the claim includes only "software modules". Claim 11 neither includes any computer hardware component(s) nor positively recites that the cited software programs are stored on a computer medium that can be read by a machine. As such, claim 11 is directed to software per se which is non-functional descriptive material and non-statutory.

Similarly, claims 12-28 are directed to software per se which is non-functional descriptive material and non-statutory.

13. Claim 29 is rejected under 35 U.S.C. 101, because the claimed invention is directed to non-statutory subject matter.

Regarding claim 29, although the preamble of the claim recites "an automation system" and "a web server", the body of the claim includes only "software modules". Claim 29 neither includes any computer hardware component(s) nor positively recites that the cited software programs are stored on a computer medium that can be read by a machine. As such, claim 29 is directed to software per se which is non-functional descriptive material and non-statutory.

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14. Claim 30 is rejected under 35 U.S.C. 101, because the claimed invention is directed to non-statutory subject matter.

Claim 30 does not positively recite that the cited "computer software product" is on a computer medium that can be read by a machine. As such, claim 30 is directed to non-functional descriptive and non-statutory material.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 11-22 and 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuchlin et al. ("HIGHROBOT: Telerobotics in the Internet", Copyright 1997).

Regarding claim 11, **Kuchlin et al.** discloses, a web server comprising software modules, wherein at least a first software module comprises a first mechanism for providing an automation functionality (**Kuchlin et al., Paragraph 4**) and a second mechanism to directly access a transport layer (**Kuchlin et al., Paragraph 3.2, Paragraph 4.1**). It is noted by the examiner that the Transmission Control Protocol (TCP) is known in the art as the best-known example of a Layer 4 Protocol.

Regarding claim 12, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server

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comprises a connection to a communication network (**Kuchlin et al., Paragraph 3.2, Paragraph 5**).

Regarding claim 13, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the communication network is the Internet (**Kuchlin et al., Paragraph 3.2, Paragraph 5**).

Regarding claim 14, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein internet protocols are provided for communication between the software modules themselves and for communication between the software modules and components outside the web server (**Kuchlin et al., Paragraph 3.2, Paragraph 4.1, Paragraph 4.2**).

Regarding claim 15 **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein Internet protocols are provided for communication between the software modules themselves and for communication between the software modules and components outside the web server (**Kuchlin et al., Paragraph 3.2, Paragraph 4.1, Paragraph 4.2**).

Regarding claim 16, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server is adapted to configure and administrate the software modules (**Kuchlin et al., Paragraph 4.2.2, Paragraph 4.2.4**).

Regarding claim 17, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the web server is

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adapted to configure and administrate the software modules (**Kuchlin et al., Paragraph 4.2.2, Paragraph 4.2.4**).

Regarding claim 18, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 14, and further discloses, wherein the web server is adapted to configure and administrate the software modules (**Kuchlin et al., Paragraph 4.2.2, Paragraph 4.2.4**).

Regarding claim 19, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 20, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 21, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 14, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 22, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 16, and further discloses, wherein the first software module comprises a connection to an industrial automation system (**Kuchlin et al., Paragraph 2, Paragraph 4.1, Paragraph 3.2, Paragraph 4**).

Regarding claim 26, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server is connected via a communication network to a web browser, wherein the web browser is used as a control and monitoring system (**Kuchlin et al., Paragraph 4.1, Paragraph 4.2.3, Paragraph 4.3**).

Regarding claim 27, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 12, and further discloses, wherein the web server is connected via a communication network to a web browser, wherein the web browser is used as a control and monitoring system (**Kuchlin et al., Paragraph 4.1, Paragraph 4.2.3, Paragraph 4.3**).

Regarding claim 28, **Kuchlin et al.** discloses the limitations, substantially as claimed, as described in claim 11, and further discloses, wherein the web server comprises a real-time operating system (**Kuchlin et al., Paragraph 2, Paragraph 4**).

Regarding claim 29, **Kuchlin et al.** discloses an automation system comprising a web server having software modules, wherein at least a first software module comprises a first mechanism for providing an automation functionality and a second mechanism to directly access a transport layer (**Kuchlin et al., Paragraph 3.2, Paragraph 4, Paragraph 4.1, Paragraph 4.2**). It is noted by the examiner that the Transmission Control Protocol (TCP) is known in the art as the best-known example of a Layer 4 Protocol.

Regarding claim 30, **Kuchlin et al.** discloses a computer program product comprising a web server having software modules, wherein at least a first software

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module comprises a first mechanism for providing an automation functionality and a second mechanism to directly access a transport layer (**Kuchlin et al., Paragraph 1, Paragraph 3.2, Paragraph 4, Paragraph 4.1, Paragraph 4.2**). It is noted by the examiner that the Transmission Control Protocol (TCP) is known in the art as the best-known example of a Layer 4 Protocol.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchlin et al. ("HIGHROBOT: Telerobotics in the Internet) as applied to claims 11, 12 and 14, above, and further in view of Modeste et al. (US Pub. #2003/0056012 A1).

Regarding claim 23, **Kuchlin et al.** disclosed the limitations, substantially as claimed, as described in claim 11, but fails to teach the use of a firewall for the connection to the Internet. However, the use of a firewall for security purposes is well-

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known in the art as evidenced by Modeste et al. Modeste et al. teaches a web server comprising a connection to the internet using a firewall (**Fig. 4, Paragraph [0041]**). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kuchlin et al. and Modeste et al. to prevent unauthorized access to the web server and the industrial automation system through the use of a firewall.

Regarding claim 24, **Kuchlin et al.** disclosed the limitations, substantially as claimed, as described in claim 12, but fails to teach the use of a firewall for the connection to the Internet. However, the use of a firewall for security purposes is well-known in the art as evidenced by Modeste et al. Modeste et al. teaches a web server comprising a connection to the Internet using a firewall (**Fig. 4, Paragraph [0041]**). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kuchlin et al. and Modeste et al. to prevent unauthorized access to the web server and the industrial automation system through the use of a firewall.

Regarding claim 25, **Kuchlin et al.** disclosed the limitations, substantially as claimed, as described in claim 14, but fails to teach the use of a firewall for the connection to the Internet. However, the use of a firewall for security purposes is well-known in the art as evidenced by Modeste et al. Modeste et al. teaches a web server comprising a connection to the Internet using a firewall (**Fig. 4, Paragraph [0041]**). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kuchlin et al. and Modeste et al. to prevent

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unauthorized access to the web server and the industrial automation system through the use of a firewall.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Jammes, US Patent #7162510, *Communication System for a Control System Over Ethernet and IP Networks*, discloses a communication system for communication within a control system.

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- Calkin et al., *Visualisation, Simulation & Control Of A Robotic System Using Internet Technology*, IEEE, 1998, discloses a virtual robotics and control laboratory, "MuMaTE".
- Taylor et al., *Internet Robots: A New Robotics Niche*, IEEE Robotics & Automation Magazine, 2000, discusses teleoperation.
- Steger et al., US Patent #6411987, *Industrial automation system and method having efficient network communication*, discloses a system and method of industrial automation providing improved network transfer of data between nodes.
- Steger et al., US Patent #6505247, *Industrial automation system and method for efficiently transferring time-sensitive and quality-sensitive data*.
- Eller et al., US Patent #6643555, *Method and apparatus for generating an application for an automation control system*.

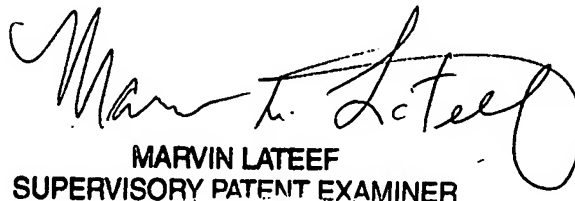
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward J. Kim whose telephone number is (571) 270-3228. The examiner can normally be reached on Monday - Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (703) 272-5026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EJK
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